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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,974	08/20/2003	Wu Mei	241786US2SRD	4968

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EXAMINER
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LEE, CYNTHIA K

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,974	<b>Applicant(s)</b> MEI ET AL.	
	<b>Examiner</b> Cynthia Lee	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/31/06, 10/12/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS: 11/10/03</u> .                    |

***Election/Restrictions***

Applicant's election with traverse of Group I, Species I, Claims 1-7 in the reply filed on 6/12/2006 is acknowledged. The traversal is on the ground(s) that there is a sufficient interrelationship between the three groups of claims to warrant examination in a single application and that a complete search would cover all the claims and thus there would be no undue burden on the patent office in examining all the claims in a single application.

In response, to provide evidence of undue burden on the Examiner, MPEP 808.02 states that for related but distinct inventions, undue burden exist if one or more of the following can be shown: A) separate classification, b) separate status in the art if inventions are classifiable together, or c) a different field of search is shown even if the inventions are classifiable together. The Examiner has shown in the previous restriction requirement that the three groups of invention are separately classified which meets the undue burden requirement as set forth in the MPEP.

The requirement is still deemed proper and is therefore made FINAL. Claims 8-19 are withdrawn from further consideration.

***Priority***

Acknowledgement has been made of applicant's claim for priority under 35 USC 119 (a-d). The certified copy has been filed on 8/20/2003.

***Information Disclosure Statement***

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The Information Disclosure Statement (IDS) filed 10/12/2004, 11/10/2003 has been placed in the application file and the information referred to therein has been considered.

A list of related cases filed on 5/31/2006 is also acknowledged.

### ***Drawings***

The drawings received 8/20/2006 are acceptable for examination purposes.

### ***Claims Analysis***

The limitation "fuel cell" in the preamble of claim 1 was considered but has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. See MPEP 2111.02.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over Yamauchi (JP 2002-226926).

Yamauchi discloses a catalyst material comprising chemical compounds X, Y, and Z. X (applicant's T) comprises Ti, Zr, Al, Fe, Cr, Mo, V, and Si. Y (Applicant's A) comprises Pt, Ag, Au, Cu, Ni, Pd, Co, Cr, Mo, W, Ti, Zr. The metallic elements are treated with a gaseous phase of ammonia (NH<sub>3</sub>) at an elevated temperature [0012]. Yamauchi discloses embodiments in which the elevated temperature range includes from ~500C to ~1500C. See Examples 1-3.

The X falls within the range between 0.0001 atom% and 70 atom% [0008] (applicant's claim 5). Should it not be disclosed with sufficient specificity, Yamauchi discloses that the function of the generated compound becomes remarkable when carrying out the addition of X of the solid more than 0.0001 atom%. However, if the addition of a metallic element X exceeds 70 atom%, it will become difficult to distribute a functional compound particle in a matrix [0008], thus clearly teaching that the atomic ratio of X is a result effective variable. It has been held by the courts that discovering an optimum value or workable ranges of a result-effective variable involves only routine skill in the art, and thus not novel. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). See MPEP 2144.05.

Therefore, claims are anticipated by Yamauchi. However, if the claims are not anticipated, the claims are obvious as it has been held similar products claimed in product-by-process limitations are obvious (see the process on pgs. 30-31 of the instant

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specification). In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324. See MPEP 2113.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi (JP 2002-226926) as applied to claim 1 and incorporated herein.

Yamauchi discloses that the catalytic material comprises fine particles, but does not disclose the particle size (applicant's claims 2 and 3). However, it is common knowledge in the art that particle size affects the surface area of the reactive sites. Larger the particle, larger the surface area. However, smaller the particle, the larger the surface area to volume ratio. Thus, the particle size is clearly a result effective variable and it has been held by the courts that discovering an optimum value or workable ranges of a result-effective variable involves only routine skill in the art, and thus not novel. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). See MPEP 2144.05.

Yamauchi does not disclose a membrane electrode assembly (applicant's claim 6) or a fuel cell (applicant's claim 7). However, Yamauchi discloses that this material is a hydrogen adsorption material [0033]. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yamauchi's catalytic material in membrane electrode assemblies and fuel cells for the benefit of catalyzing

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hydrogen gas in the anode. The Office notes that a membrane electrode assembly and a fuel cell necessarily comprise an anode, a cathode, and an electrolyte layer in between the two electrodes.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ckl

  
PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER

Cynthia Lee